EVALUATION FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE

APPLICANT'S NAME: TEVA PARENTERAL MEDICINES, INC

MAILING ADDRESS: 17-25 HUGHES AVENUE
IRVINE, CA 92618

CONTACT PERSON: JIM SMITH
(949) 456-4712

EQUIPMENT ADDRESS: 17-25 HUGHES AVENUE
IRVINE, CA 92618

FACILITY ID: 84273 RECLAIM: NO TITLE V: YES

APPLICATION: 497776, 497777, 497778

APPLICATIONS:

APPLICATION NO.	EQUIPMENT DESCRIPTION	APPLICATION TYPE (as submitted)
497776	Title V permit revision	TV amend
497777	Boiler, natural gas fired	PC (Permit to construct)
497778	Engine, diesel, emergency	PC/PO (permit to construct & operate)

FACILITY INFORMATION

This is an existing TV facility applying for a Title V permit amendment to install a new emergency diesel generator and to modify an existing natural gas fired boiler currently permitted under A/N 412630. The facility is in the business of manufacturing and packaging injectable drugs. This facility is operating a boiler, a number of mixing/blending tanks, emergency internal combustion engines, and other support equipment. The facility has been in operation since 1991. An initial Title V permit was issued to the facility on 9/18/2002 and subsequent revisions were issued on 8/12/2003, 12/02/2003, and 7/1/2004. The title V renewal was issued on 5/13/09.

Compliance History

As noted, the facility has been in operation since 1991. The facility has been subject to both self-reporting requirements and AQMD inspections, and has had no citizen complaints filed in past two years. However, the facility was issued a Notices of Violation by the AQMD in 2007 for facility's failure to submit semi-annual and certified annual report in a timely manner, and a Notice to Comply in 2008 to provide record for refrigerant use. No other notices have been issued to the facility in past two calendar years. The facility has since corrected the problems and is currently operating in compliance with all applicable rules and regulations.

EQUIPMENTS & PROCESS DESCRIPTIONS

APPLICATION 497776, TITLE V PERMIT REVISION:

Application 497776 is for TV Revision. The proposed permit revision is considered a "de minimis significant permit revision" to the facility's Title V permit. The permit for the facility has been issued in alternative format and this revision will also be issued in alternative format.

APPLICATION 497777 (PREVIOUS 412630), BOILER, MODIFICATION, EVALUATION FOR PERMIT TO CONSTRUCT

Teva Parenteral submitted the above application to upgrade an existing boiler with a new Low Nox Burner and an economizer. The new burner has the same input heat rating. The low Nox Burner requires the use of larger combustion blower. The 15 hp combustion blower will be replaced with a 25 HP blower. Teva Parenteral also requested condition 7 and 8 of the permit changed to conform to Rule 1146 requirements periodic monitoring requirements. Some minor changes to equipment description also requested. The addition and changes are underlined & bolded, and deletions are marked with strike through. The modification doe not result in emission increase, therefore Reg 13 and Rule 1401 is not triggered. However, since the burner is being changed to comply with the future requirement of Rule 1146 (9 ppmv for NOX), the specified limit will be used for emission calculations and requirements for NOX.

EQUIPMENT DESCRIPTION:

BOILER, CLEAVER BROOKS, MODEL CB~~F~~ 700-500~~-150~~ **200ST**, 500 HP, WITH A NATURAL GAS LOW NOX BURNER 20,922,000 BTU PER HOUR, WITH A CLEAVER BROOKS SYSTEM 20 FORCED DRAFT FULLY MODULATED AUTOMATIC FLUE GAS RECIRCULATION SYSTEM AND A ~~15~~ **25** HP COMBUSTION AIR BLOWER, **AND A CLEAVER BROOKS ECONOMIZER, MODEL CRE-48E6AL**.

PERMIT CONDITIONS:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS BOILER SHALL BE FIRED WITH NATURAL GAS ONLY.
[RULE 1303(a)(1)-BACT]

4. THIS BOILER SHALL EMIT NO MORE THAN ~~30~~ **9** PPM OF OXIDES OF NITROGEN (NOX MEASURED AS NO2**), AND 400 PPM OF CO, BOTH** MEASURED BY VOLUME ON A DRY BASIS AT 3 % OXYGEN (O2).
[RULE 1303(a)(1)-BACT][RULE 1146]

5. THE BURNER SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE COMBUSTION AIR, RECIRCULATED FLUE GAS, AND FUEL AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED AT LEAST TWICE A YEAR COMMENCING FROM START UP, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME FIRING RATE.
[RULE 1303(a)(1)-BACT]

6. THE OWNER OR OPERATOR OF THIS BOILER SHALL COMPLY WITH THE AQMD RULE 1146 REQUIREMENTS.
[RULE 1146][RULE 3004(a)(4)]

~~6.~~ 7. RECORDS OF SUCH ADJUSTMENTS, TUNE UP, AND CALIBRATION AS STATED IN CONDITION NUMBER 5 SHALL BE KEPT FOR AT LEAST FIVE YEARS AND BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.
[RULE 1303(a)(1)-BACT]

8. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS AFTER THE INITIAL START-UP OF THIS EQUIPMENT UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT.

9. THE PROTOCOL SHALL BE APPROVED IN WRITING BY THE DISTRICT BEFORE THE TEST COMMENCES. THE TEST PROTOCOL SHALL INCLUDE THE COMPLETE FORMS

ST-1 AND ST-2 SPECIFYING THE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, THE IDENTITY OF THE TESTING LABORATORY, A STATEMENT FROM THE TESTING LABORATORY CERTIFYING THAT IT MEETS THE CRITERIA IN DISTRICT RULE 304(K), AND A DESCRIPTION OF THE SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

10. A SOURCE TEST SHALL BE CONDUCTED WITHIN 60 DAYS AFTER INITIAL START-UP OF THIS EQUIPMENT OR WITHIN 180 DAYS AFTER RECEIPT OF THIS PERMIT, UNLESS OTHERWISE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.

11. A SOURCE TEST SHALL BE PERFORMED TO VERIFY COMPLIANCE WITH THE NOX AND CO EMISSION LIMITS SPECIFIED IN CONDITION NO. 5.

12. SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SCAQMD METHOD 100.1. THE TESTS SHALL BE CONDUCTED WHILE THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE FIRING RATES. THE SAMPLING TIMES SHALL BE AT LEAST 15 CONSECUTIVE MINUTES FOR MAXIMUM AND MINIMUM LOADS AND AT LEAST ONE HOUR FOR NORMAL OPERATING LOAD.

    WRITTEN CORRESPONDENCE SHALL BE ADDRESSED TO SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, (ATTN: HASSAN NAMAKI, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765), REFERENCING APPLICATION NO. 475075.

13. WRITTEN NOTICE OF THE SOURCE TEST SHALL BE SUBMITTED TO THE DISTRICT (ADDRESSED TO SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, P.O. BOX 4941, DIAMOND BAR, CA 91765) AT LEAST 14 DAYS PRIOR TO TESTING SO THAT AN OBSERVER MAY BE PRESENT.

14. TWO COMPLETE COPIES OF SOURCE TEST REPORT SHALL BE SUBMITTED TO THE DISTRICT, WITHIN 45 DAYS AFTER THE TEST. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO EMISSIONS RATES IN POUNDS PER HOUR AND CONCENTRATIONS IN PPMV AT THE OUTLET OF THE BOILER, MEASURED ON A DRY BASIS AT 3% OXYGEN. THE FOLLOWING OPERATING DATA SHALL ALSO BE INCLUDED FOR EACH FIRING RATE:

    I. THE EXHAUST FLOW RATES, IN ACTUAL CUBIC FEET PER MINUTE (ACFM)
    II. THE FIRING RATES, IN BTU PER HOUR
    III. THE EXHAUST TEMPERATURE, IN DEGREE F
    IV. THE OXYGEN CONTENT OF THE EXHAUST GASES, IN PERCENT, AND
    V. THE FUEL FLOW RATE

15. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD IN THE REQUIRED TEST METHODS FOR CRITERIA POLLUTANT TO BE MEASURED, AND IN COMPLIANCE WITH RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THE TEST.

16. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.

PERIODIC MONITORING:

Note: Periodic monitoring is required when the AQMD Rules do not include monitoring requirements to satisfy TV program. Periodic monitoring has been included in the AQMD Rule 1146. Therefore a permit condition requiring compliance with AQMD Rule 1146 shall be sufficient, and their expansion in the permit is unnecessary. I recommend the periodic monitoring for NOX and CO (below) to be removed from the permit as the requirements are covered by the newly added permit condition 6 of the permit. Furthermore, inspection for visible emission from natural gas fired boiler is not required and the requirement shall be removed from the permit.

~~7. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOX EMISSION LIMIT(S) EITHER BY: (a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY YEAR USING AQMD METHOD 100.1 OR 7.1; OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE ANALYZER AND AQMD APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.FOR THE PURPOSE OF DETERMINING COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT, THE EMISSIONS SHALL BE MEASURED AND AVERAGED OVER A 15 MINUTE TIME PERIOD.~~
~~[RULE 3004(a)(4)]~~

~~8. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO EMISSION LIMIT(S) EITHER BY: (a) CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY YEAR USING AQMD METHOD 100.1 OR 10.1; OR (b) CONDUCTING A TEST AT LEAST ANNUALLY USING A PORTABLE ANALYZER AND AQMD APPROVED TEST METHOD.. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. FOR THE PURPOSE OF DETERMINING COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT, THE EMISSIONS SHALL BE MEASURED AND AVERAGED OVER A 15 MINUTE TIME PERIOD.~~
~~[RULE 3004(a)(4)]~~

~~9. THE OPERATOR SHALL CONDUCT AN INSPECTION FOR VISIBLE EMISSIONS FROM ALL STACKS AND OTHER EMISSION POINTS OF THIS EQUIPMENT WHENEVER THERE IS A PUBLIC COMPLAINT OF VISIBLE EMISSIONS, WHENEVER VISIBLE EMISSIONS ARE OBSERVED, AND ON AN ANNUAL BASIS, AT LEAST, UNLESS THE EQUIPMENT DID NOT OPERATE DURING THE ENTIRE ANNUAL PERIOD. THE ROUTINE ANNUAL INSPECTION SHALL BE CONDUCTED WHILE THE EQUIPMENT IS IN OPERATION AND DURING DAYLIGHT HOURS. IF ANY VISIBLE EMISSIONS (NOT INCLUDING CONDENSED WATER VAPOR) ARE DETECTED THAT LAST MORE THAN THREE MINUTES IN ANY ONE HOUR, THE OPERATOR SHALL EITHER:~~

~~A. VERIFY AND CERTIFY WITHIN 24 HOURS THAT THE EQUIPMENT CAUSING THE~~

~~EMISSION AND ANY ASSOCIATED AIR POLLUTION CONTROL EQUIPMENT ARE OPERATING NORMALLY ACCORDING TO THEIR DESIGN AND STANDARD PROCEDURES AND UNDER THE SAME CONDITIONS UNDER WHICH COMPLIANCE WAS ACHIEVED IN THE PAST;~~

~~B. TAKE CORRECTIVE ACTION(S) THAT ELIMINATES THE VISIBLE EMISSIONS WITHIN 24 HOURS AND REPORT THE VISIBLE EMISSIONS AS A POTENTIAL DEVIATION IN ACCORDANCE WITH THE REPORTING REQUIREMENTS IN SECTION K OF THIS PERMIT; OR~~

~~C. HAVE A CARB CERTIFIED SMOKE READER DETERMINE COMPLIANCE WITH THE OPACITY STANDARD, USING EPA METHOD 9 OR THE PROCEDURES IN THE CARB MANUAL "VISIBLE EMISSION EVALUATION", WITHIN THREE BUSINESS DAYS AND REPORT ANY DEVIATIONS TO AQMD.~~

~~THE OPERATOR SHALL KEEP THE RECORDS IN ACCORDANCE WITH THE RECORDKEEPING REQUIREMENTS IN SECTION K OF THIS PERMIT AND THE FOLLOWING RECORDS:~~

~~A. STACK OR EMISSION POINT IDENTIFICATION;~~

~~B. DESCRIPTION OF ANY CORRECTIVE ACTIONS TAKEN TO ABATE VISIBLE EMISSIONS;~~

~~C. DATE AND TIME VISIBLE EMISSION WAS ABATED; AND~~

~~D. VISIBLE EMISSION OBSERVATION RECORDED BY A CERTIFIED SMOKE READER. [RULE 3004 (A)(4)]~~

EMISSIONS AND REQUIREMENTS:

~~10.~~ 17. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 407
CO: 400 PPMV, RULE 1146
PM: 0.1 GR/SCF, RULE 409
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
NOX: ~~30~~ **9** PPMV, RULE 1146

DATA & EMISSION CALCULATION:

DATA:

Operating Schedule:

MAXIMUM: 24 HRS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR
AVERAGE: 24 HRS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

FUEL AND HEATING RATE:

BURNER RATING: 20.992 MM BTU/HR
AVERAGE LOAD: 100%
MAIN FUEL: NATURAL GAS (1050 BTU/CF)
BACK-UP FUEL: NO
FUEL USAGE: 19,993 CF/HR

EMISSION FACTORS:

The emission factors listed below will be used to calculate emission rates and set compliance criteria unless specified otherwise.

POLLUTANTS	EMISSION FACTORS	UNITS	SOURCE
CO	35	LB/MMCF	PREVIOUS APPLICATION, BASED ON AQMD EMISSION REPORTING HANDBOOK
NOX	9 (3% O2, DRY)	PPMV	RULE 1146
PM=PM10	7.5	LB/MMCF	AQMD EMISSION REPORTING HANDBOOK
ROG	7.0	LB/MMCF	AQMD EMISSION REPORTING HANDBOOK
SOX	0.83	LB/MMCF	AQMD EMISSION REPORTING HANDBOOK

EMISSION CALCULATIONS:

E1 = Maximum Hourly (Uncontrolled)
E2 = Maximum Hourly (Controlled)
R1 = Average Hourly (Uncontrolled)
R2 = Average Hourly (Controlled)

E1 (CO, NOX) = (Exhaust flow rate scfm)(ppmv)(1 lb-mole/379 cf)(MW lb/lb-mole)(60 min/hr)

E1 (PM, ROG &SOX) = (Fuel flow rate cf/hr)(lb/mmcf of fuel)

Exhaust flowrate:
EPA factor for natural gas = 8740 dscf/mmbtu (68 F & 0% O2)
(8740dscf/mmbtu)(20.9 - 0 / 20.9 - 3)= 10,204 dscf/mmbtu (68 F & 3% O2)
Exhaust = (10,204 dscf/mmbtu)(20.922 mmbtu/hr) = 214,202.4 dscf/hr

E1 (NOX) = (214,202.4 dscf/hr)(9 ppm)(1 lb-mole/379 cf)(46 lb/lb-mole)
= 0.142 lb/hr

CO, PM, ROG and SOX:

Note: In previous permit the 35 lb/mmcf was used for CO emission calculation. The same factor will be used here.

E1(CO) = (19,993 cf/hr)(35 lb/mmcf) = 0.7 lb/hr

E1 (PM=PM10) = (19,993 cf/hr)(7.5 lb/mmcf) = 0.149 lb/hr

E1 (ROG): = (19,993 cf/hr)(7 lb/mmcf) = 0.139 lb/hr

E1 (SOX): = (19,993 cf/hr)(0.83 lb/mmcf) = 0.017 lb/hr

Maximum Hourly Emissions:

E1 = E2

POLLUTANT	MAXIMUM E1=E2 LB/HR
CO	0.700
NOX	0.142
PM=PM10	0.149
ROG	0.139
SOX	0.017

AEIS EMISSIONS:

Same as maximum

NSR CALCULATION:

DAILY UNCONTROLLED = E1(MAX) * MAX. OPERATING SCHEDULE
DAILY CONTROLLED = E2(MAX) * MAX. OPERATING SCHEDULE
30 DAY AVERAGE = E2(MAX) * MAX. HOURS/DAY * MAX DAYS/MONTH / 30
ANNUAL = R2(AVERAGE) *AVERAGE HOURS /YEAR

POLLUTANT	HOURLY MAXIMUM LB/HR	DAILY MAXIMUM LB/DAY	30DAY AVERAGE LB/DAY	ANNUAL LB/YEAR
CO	0.700	16.8	17	6,132
NOX	0.142	3.42	3	1,244.2
PM = PM10	0.149	3.59	4	1,305.5
ROG	0.139	3.35	3	1,218.5
SOX	0.017	0.40	0	144.5

HEALTH RISK ASSESSMENT:

Modification with no emission increase, HRA is not required.

RULES EVALUATION:

Rule 212: **Standards for Approving Permits:**
Modification with no emission increase, public Notice is not required.

Rule 401: **Visible Emissions:**
No visible emissions are expected from this type of equipment and thus compliance with this rule is expected.

Rule 402: **Public Nuisance:**
Nuisance problems due to the operation of this type equipment are unlikely.

Rule 404: **Particulate Matter Concentration:**
In accordance to 404(c), steam generators (boilers) are exempt from this rule.

Rule 407: **Liquid and Gaseous Air Contaminant:**
Rule Limit:
CO = 2000 PPMV
SO2 = Not applicable due to the limit of fuel sulfur content in 431.1
This Equipment:
CO < 2000 PPMV

Rule 409: **Combustion Contaminants:**
Rule Limit:
PM= 0.1 gr/cf
1 grain = 0. 0648 gram
or 15.43 grain = 1 gram
This equipment:
PM = (0.149 lb/hr) (454 gm/lb) (15.43 gr/gm) / (214,202.4 dscf/hr)
= 0.005 gr/cf
Based on the emissions levels indicated above, compliance with this rule is expected.

Rule 431.1: **Sulfur Content of Gaseous Fuel:**
The sulfur content of the natural gas supplied to the boiler is expected to meet 16 mmpv sulfur calculated as H2S.

Rule 1146: **Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters:**
The boiler is a Group II unit, Rule 1146(c)(1)(G) and must meet 9 ppmv NOX limit by 1/1/2012. The rule require that owner/operator submit

compliance plan by 1/1/1010, modification application by 1/1/2011 and be in compliance by 1/1/2012. The burner is being replaced to meet the requirement now.

Rule Limit:
NOX = 9 PPMV (compliance date 1/1/2012)
CO = 400 PPMV
This Boiler:
NOX = 9 PPMV
CO < 400 PPMV

REGULATION XIII: New Source Review:
Modification with no emission increase, REG 13 is not applicable.

Rule 1401: New Source Review of Toxic Air Contaminants:
Modification with no emission increase, REG 13 is not applicable.

Regulation XXX: Title V Facilities:
Compliance is expected

CONCLUSIONS & RECOMMENDATIONS:

Emission calculations and equipment analysis show that the equipment would operate in compliance with all the applicable Rules and Regulations of the District. Permit to Construct is recommended subject to the conditions stated above.

APPLICATION 497778,EMERGENCY DIESEL GENERATOR,EVALUATION FOR PERMIT TO CONSTRUCT AND OPERATE:

EQUIPMENT DESCRIPTION:

INTERNAL COMBUSTION ENGINE, JOHN DEERE, MODEL 6068HF285K, TURBOCHARGED AND AFTERCOOLED, DIESEL FIRED, 6 CYLINDERS 237 BHP, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

PERMIT CONDITIONS:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL COMPLY WITH RULE 431.2 AND 1470.
[RULE 431.2][RULE 1470]

4. AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1304][RULE 1470]

5. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 200 HOURS IN ANY ONE YEAR, WHICH INCLUDES NO MORE THAN 50 HOURS PER YEAR AND 5 PER MONTH FOR MAINTENANCE AND TESTING AS REQUIRED IN RULE 1470(C).
[RULE 1304][RULE 1470]

6. OPERATION BEYOND THE ALLOTTED TIME FOR ENGINE MAINTENANCE AND TESTING SHALL BE ALLOWED ONLY IN THE EVENT OF A LOSS OF GRID POWER OR UP TO 30 MINUTES PRIOR TO A ROTATING OUTAGE, PROVIDED THAT THE UTILITY DISTRIBUTION COMPANY HAS ORDERED ROTATING OUTAGES IN THE CONTROL AREA WHERE THE ENGINE IS LOCATED OR HAS INDICATED THAT IT EXPECTS TO ISSUE SUCH AN ORDER AT A CERTAIN TIME, AND THE ENGINE IS LOCATED IN A UTILITY SERVICE BLOCK THAT IS SUBJECT TO THE ROTATING OUTAGE. ENGINE OPERATION SHALL BE TERMINATED IMMEDIATELY AFTER THE UTILITY DISTRIBUTION COMPANY ADVISES THAT A ROTATING OUTAGE IS NO LONGER IMMINENT OR IN EFFECT.
[RULE 1470]

7. THIS ENGINE SHALL NOT BE USED AS PART OF AN INTERRUPTIBLE SERVICE CONTRACT IN WHICH A FACILITY RECEIVES A PAYMENT OR REDUCED RATES IN RETURN FOR REDUCING ELECTRIC LOAD ON THE GRID WHEN REQUESTED BY THE UTILITY OR THE GRID OPERATOR.
[RULE 1470]

8. THE OPERATOR SHALL KEEP A LOG OF ENGINE OPERATIONS DOCUMENTING THE TOTAL TIME THE ENGINE IS OPERATED EACH MONTH AND THE SPECIFIC REASON FOR OPERATION AS:

   A. EMERGENCY USE
   B. MAINTENANCE AND TESTING
   C. OTHER (BE SPECIFIC)

   IN ADDITION, FOR EACH TIME THE ENGINE IS MANUALLY STARTED, THE LOG SHALL INCLUDE THE DATE OF ENGINE OPERATION, THE SPECIFIC REASON FOR OPERATION, AND THE TOTALIZING HOUR METER READING (IN HOURS AND TENTHS OF HOURS) AT

THE BEGINNING AND THE END OF THE OPERATION. ON OR BEFORE JANUARY 15TH OF EACH YEAR, THE OPERATOR SHALL RECORD IN THE ENGINE OPERATING LOG:

A. THE TOTAL HOURS OF ENGINE OPERATION FOR THE PREVIOUS CALENDAR YEAR, AND
B. THE TOTAL HOURS OF ENGINE OPERATION FOR MAINTENANCE AND TESTING FOR THE PREVIOUS CALENDAR YEAR

ENGINE OPERATION LOG(S) SHALL BE RETAINED ON SITE FOR A MINIMUM OF FIVE CALENDAR YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER OR REPRESENTATIVE UPON REQUEST.
[RULE 1304][RULE 1470][RULE 3004(a)(4)]

PERIODIC MONITORING:

Except as stated in the permit conditions above, additional monitoring requirements for Emergency ICE is not required

EMISSIONS AND REQUIREMENTS:

10. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM:	RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
PM10:	0.15 GRAM/BHP-HR, RULE 1303(a)(1)-BACT
NOX+VOC:	3.0 GRAM/BHP-HR, RULE 1303(a)(1)-BACT
CO:	2.6 GRAM/BHP-HR, RULE 1303(a)(1)-BACT

DATA & EMISSION CALCULATION:

OPERATIONAL DATA:

Operating Schedule:

The operating schedule is based on engine maintenance and testing:

Maximum:	1 hours/day
Days/week:	1 day/week
Max monthly:	5 hours/month
Annual average:	50 hours/year

Fuel type:

DIESEL

Engine Rating & Fuel Consumption:

Engine rating: 237 bhp
Fuel, consumption: 11.7 gallon

EMISSION FACTOR:

The above engine must meet the Tier-3 engine emission requirements. The engine emissions are as follow:

EMITTANT	EMISSION FACTOR	UNITS	SOURCE
CO	0.78	GR/BHP-HR	Manufacturer
NOX	2.75	GR/BHP-HR	Manufacturer
ROG	0.10	GR/BHP-HR	Manufacturer
PM10	0.10	GR/BHP-HR	Manufacturer
SOX	0.006	GRAM/BHP-HR (Based on 15 PPMW S. content	15 PPMW S. content

For emission calculations and permit emission limits we will use BACT/Tier-3 emission limits. The BACT/Tier-3 emission limits are as follow:

EMITTANT	BACT/TIER-3 EMISSION FACTOR	UNITS	SOURCE
CO	2.6	GR/BHP-HR	BACT
NOX+VOC	3.0	GR/BHP-HR	BACT
PM10	0.15	GR/BHP-HR	BACT
SOX	0.006	GRAM/BHP-HR (Based on 15 PPMW S. content	15 PPMW S. content

Since we need to calculate NOX and VOC separately, we will assume NOX emissions of 2.85 gram/bhp-hr and VOC emissions of 0.15 gram/bhp-hr. The emission factors that will be used in calculations are as follow:

EMITTANT	EMISSION FACTOR	UNITS	SOURCE
CO	2.6	GR/BHP-HR	BACT
NOX	2.85	GR/BHP-HR	BACT (estimate)
ROG	0.15	GR/BHP-HR	BACT (estimate)
PM10	0.15	GR/BHP-HR	BACT
SOX	0.006	GRAM/BHP-HR (Based on 15 PPMW S. content	15 PPMW S. content

EMISSION CALCULATIONS:

Assumptions:

E1=E2
Hourly average = Hourly maximum
PM=PM10

AEIS (lb/hr):

E1 = E2 = (EF grams/bhp-hr)(engine bhp-hr)(0.0022046 lb/gram)

NSR (lb/day):

R1 = R2 =(EF grams/bhp-hr)(engine bhp-hr)(0.0022046 lb/gram)(O)

Where:

E1	=	Uncontrolled Emissions, lb/hr (average)
E2	=	Controlled Emissions, lb/hr (average)
R1	=	Uncontrolled emissions, lb/day
R2	=	Controlled emissions, lb/day
EF	=	Emission Factor (grams/bhp-hr)
O	=	Maximum Time of Operation, hrs/day

EMISSION CALCULATION RESULTS:

Note: Calculations are for one engine

Hourly Emissions:

E1 = E2
AVERAGE = MAXIMUM

EMITTANT	MAXIMUM = AVERAGE (LB/HR)
	E1 = E2
CO	1.36
NOX	1.49
PM10	0.08
ROG	0.08
SOX	0.0031

NSR:
Annual emissions are based on 50 hours of operation per year.

EMITTANT	Hourly MAX. LB/hr	DAILY MAX. LB/DAY	30DAY AVERAGE LB/DAY	ANNUAL LB/YEAR
CO	1.36	1.36	0.23	67.86
NOX	1.49	1.49	0.25	74.39
PM10	0.08	0.08	0.01	3.92
ROG	0.08	0.08	0.01	3.92
SOX	0.0031	0.0031	0.00	0.16

RULES EVALUATION:

Rule 212: Standards for Approving Permits:

The increase in daily criteria pollutants are less than the threshold in Rule 212(g), HRA for emergency engine is not required, and there are no schools within 1000 feet from the facility. Public Notice is not required.

Rule 401: Visible Emissions:

Based on experience with similar equipment, this engine is expected to comply with visible emission limits.

Rule 402: Nuisance:

Based on experience with similar equipment, nuisance complaints are not expected.

Rule 404: Particulate Matter Concentration:

The exhaust flowrate for the engine is 1197 cfm (dry) at 950 Degree F. This is equivalent to 441 dscfm (26460 dscf/hr) at standard conditions. According to Rule 404, Table 404(a) the particulate discharge form the engine shall not exceed 0.196 grain per dry standard cubic feet of exhaust gas.

1 grain = 0. 0648 gram
or 15.43 grain = 1 gram
The PM form this engine is 0.053 lb/hr or
(0.08 lb/hr) (454 gm/lb) (15.43 gr/gm) / (26460 dscf/hr) = 0.021 gr/dscf

0.021 gr/dscf is less than the Rule requirement; compliance with this rule is expected

Rule 1110.2: Emissions from Internal Combustion Engines:

Emergency engines are exempt from this rule.

Regulation XIII: New Source Review

BACT:

AQMD BACT diesel fueled emergency engines are based on EPA Tier 1, 2 and 3 engines. The BACT guideline specifies Tier 3 for this size engine. The engine above is EPA/CARB certified Tier-3 engine, therefore in compliance with BACT.

EMITTANT	BACT/TIER-3 EMISSION FACTOR GRAM/BHP-HR	THIS ENGINE GRAM/BHP-HR
CO	2.6	0.78
NOX+VOC	3.0	2.85
PM10	0.15	0.10
SOX	0.006	0.006

Modeling:

Emergency engines are exempt from modeling.

Offset:

Emergency engines are exempt from offset; however the 30-day average emissions are below 0.5 lb/day for every criteria pollutant for the engine. Offset is not required.

Rule 1401: New Source Review of Toxic Air Contaminants:

Emergency engines are exempt from this rule.

Rule 1470:

Compliance is expected.

Regulation XXX: Title V Facilities:

Compliance is expected

DISCUSSION:

It is expected that the engine will operate in compliance with applicable requirements. Issue permit to Construct and Operate subject to the conditions stated above.

PROJECT TOTAL EMISSIONS

The facility permit revision under the applications above will not result in 30-day average emission increase greater than 0.5 lb/day for any criteria pollutant. Emission offset is not required.